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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/820,538	03/29/2001	Vipin Chandra Kalia	205,080	5048

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ABELMAN FRAYNE & SCHWAB

Attorneys at Law  
150 East 42nd Street  
New York, NY 10017

EXAMINER

ALEXANDER, LYLE

ART UNIT

PAPER NUMBER

1743

DATE MAILED: 02/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/820,538

Applicant(s)

KALIA ET AL.

Examiner

Lyle A Alexander

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03 October 2003.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-46 is/are pending in the application.  
4a) Of the above claim(s) 1 and 23-46 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 2-22 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_

***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 2-22 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim makes reference to figures in the drawings and to tables in the specification which makes the claims vague and indefinite what Applicants is trying to claim. See the below citation from the MPEP concerning these issues.

2173.05(s) Reference to Figures or Tables

Where possible, claims are to be complete in themselves. Incorporation by reference to a specific figure or table "is permitted only in exceptional circumstances where there is no practical way to define the invention in words and where it is more concise to incorporate by reference than duplicating a drawing or table into the claim. Incorporation by reference is a necessity doctrine, not for applicant's convenience." *Ex parte Fressola*, 27 USPQ2d 1608, 1609 (Bd. Pat. App. & Inter. 1993) (citations omitted).

Reference characters corresponding to elements recited in the detailed description and the drawings may be used in conjunction with the recitation of the same element or group of elements in the claims. See MPEP § 608.01(m).

Further, even if table 1 was imported from the specification into the claim, it is still not clear what physical parameters are intended by the "C" values. The specification describes these as various colors where "C 1000" is characterized as "brown" but is

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silent to any characteristics of the "C" values less than "C1000" except that they represent "a particular color range". One having ordinary skill in the art could not have ascertained what the particular color range is or even possibly agreed upon what is considered "brown" for a value of "C1000". The proposed colors would have been better described as absorbance value at a particular wavelength or some other objective characteristic that could be readily reproduced and unambiguously recognized by one of ordinary skill in the art. As the claims presently stand, in the absence of claiming the color chart and clarification of what is intended by the "C" values, one having ordinary skill in the art could not make the instant invention. The invention will be examined as an optical method for determination of COD using the claimed reagents.

### ***Specification***

The disclosure is objected to because of the following informalities: The specification must contain a paragraph describing the drawings and be titled "Brief Description of the Drawings".

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 2-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. or DE 10029146A1(DERWENT 2001-103832 English characterization) in view of Atalla et al.

In light of the above 35 USC 112 issues the invention is best understood as a method for the determination of COD using the claimed reagents.

Takahashi et al. teach in column 9 lines 31 COD is calculated using a potassium dichromate, sulfuric acid-silver sulfate and mercuric sulfate. DERWENT characterizes DE 10029146A1 as teaching COD determination using sulfuric acid, mercury and silver

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salts and potassium dichromate. These references are silent to the claimed use of glucose as a standard and the associated concentrations of the reagents/standard.

Atalla et al. teaches a method of COD determination using a potassium dichromate, sulfuric acid and silver sulfate. Column 13 lines 10-22 teach glucose as oxidized to carbon dioxide during COD tests and may reasonably be taken to represent the total concentration of reducing equivalents of organic carbon present. Thus glucose is a good control as it represents the a total concentration of organic carbon present. Atalla et al. further teaches in Examples 4-5 use of glucose controls.

Controls are advantageous to determine if the assay is performing properly and are conventionally used.

It would have been within the skill of the art to modify Takahashi et al. or DE 10029146A1 in view of Atalla et al. and use glucose as a control to gain the above advantages associated with controls and glucose controls in COD analysis.

The court decided In re Boesch (205 USPQ 215) that optimization of a result effective variable is ordinarily within the skill of the art. A result effective variable is one that has predictable and well-known results. The chosen concentration of a well-known reagent to achieve the expected result would have been a result effective variable. Takahashi et al. and DE 10029146A1 both teach well-known reagents to determine COD. The selection of the particular concentration of the reagents to achieve the expected result of COD determination would have been a result effective variable. Further, it is desirable to optimize the concentration of reagents to achieve use of a

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minimal amount of reagent to produce the best results and thus minimize the cost of the assay/reagents.

It would have been within the skill of the art to modify Takahashi et al. or DE 10029146A1 in view of Atalla et al. and choose the claimed concentrations as optimization of a result effective variable and to minimize the cost of the reagents.

### ***Election/Restrictions***

Applicant's election with traverse of group II in the Paper received 11/03/03 is acknowledged. The traversal is on the ground(s) that the fundamental governing principal in group II and IV are exactly the same. This is not found persuasive because the reference to different tables in groups II and IV makes the methods different.

The requirement is still deemed proper and is therefore made FINAL.

Applicants also correctly noted the Office made no mention of claim 46 in the restriction requirements. Claim 46 makes reference to the same tables as claims 25-45 of group IV and therefore placed in group IV. The Office regrets this typographical error.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lyle A Alexander whose telephone number is 571-272-1254. The examiner can normally be reached on Monday, Wednesday and Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 571-272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Lyle A Alexander  
Primary Examiner  
Art Unit 1743

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